

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Robert McCarthy

Title: MEDIA HANDLING

Appl. No.: 10/782,656

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Examiner: McClain, Gerald

Art Unit: 3653

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AMENDMENT AND REPLY UNDER 37 CFR 1.116

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This communication is responsive to the FINAL Office Action dated June 27, 2007
concerning the above-referenced patent application.

Amendments to the Specification begin on page 2 of this document.

Amendments to the Claims are reflected in the listing of claims which begins on page 3
of this document.

Remarks/Arguments begin on page 7 of this document.

Please amend the application as follows:

Amendments to the Specification:

On page 1, line 1, please amend the title as follows:

MEDIA HANDLING USING OFFSET CUPS OR SUCTION MEMBERS

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An apparatus for handling print media, the apparatus comprising:
a print engine;
a support;
at least three cups mounted on the support, each of the three cups having a distal surface for contacting the print media;
the distal surfaces of two of the three cups lying in a first plane and the distal surface of the other of the three suction cups lying in a second plane, wherein the first and second planes are offset from each other;
a conveyor adjacent to the cups for transferring the print media from the cups to a the print engine; and
a drum for advancing the print media from the print engine to the cups.
2. (Original) The apparatus of claim 1, wherein the support further comprises a rotatable member.
3. (Cancelled)
4. (Original) The apparatus of claim 1, wherein the support is configured to rotate about an axis, at least two of the cups being disposed different distances from the axis.
5. (Canceled)
6. (Currently Amended) ~~An~~ The apparatus of claim 1, for handling print media, the apparatus comprising:
~~— a support;~~

~~—— at least three cups mounted on the support, each of the three cups having a distal surface for contacting the print media;~~

~~—— the distal surfaces of two of the three cups lying in a first plane and the distal surface of the other of the three suction cups lying in a second plane, wherein the first and second planes are offset from each other;~~

wherein four cups are mounted on the support and are arranged in a line with middle cups being in the first plane and outer cups being in the second plane.

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Previously Presented) An assembly for handling sheet material, the assembly comprising:
a rotor having an axis of rotation;

coupling members mounted on the rotor for adhering sheet material to the coupling members by suction;

wherein at least one of the coupling members is disposed a first distance from the axis of rotation and another of the coupling members is disposed a second distance from the axis of rotation, the first and second distances being different

wherein the coupling members comprise first and second sets of coupling members configured to rotate independently.

11. (Cancelled)

12. (Previously Presented) An assembly for handling sheet material, the assembly comprising:
a rotor having an axis of rotation;

coupling members mounted on the rotor for adhering sheet material to the coupling members by suction;

wherein at least one of the coupling members is disposed a first distance from the axis of rotation and another of the coupling members is disposed a second distance from the axis of rotation, the first and second distances being different;

a drum positioned adjacent to cups for delivering sheet material to the cups, the drum having a gripper disposed thereon for selectively maintaining the sheet material on the drum.

13. (Previously Presented) An imaging device comprising:

a print engine for forming an image on a medium;

suction members arranged in a line, each suction member configured to rotate about an axis of rotation and to adhere to the medium after the print engine has formed an image on the medium;

the suction members being disposed different distances from the axis of rotation and configured to corrugate at least a section of the medium when the medium is adhered to the suction members.

14. (Original) The imaging device of claim 13, wherein the suction members comprise at least three suction members with a middle one of the suction members being disposed a first distance from the axis of rotation and other ones of the suction members being disposed a second distance from the axis of rotation, the first and second distances being different.

15. (Original) The imaging device of claim 13, wherein the suction members comprise at least four suction members with middle ones of the suction members being disposed a first distance from the axis of rotation and other ones of the suction members being disposed a second distance from the axis of rotation, the first and second distances being different.

16. (Original) The imaging device according to claim 13, wherein the imaging engine comprises a liquid electrophotography print engine.

17. (Cancelled)

18. (Previously Presented) A digital imaging press, comprising:

a liquid electrophotography print engine;

a drum for advancing media relative to the print engine;

suction cups configured to rotate about an axis of rotation for adhering to and picking the media from the drum, at least one of the suction cups being disposed farther from the axis of rotation than at least one of the other suction cups such that the media is at least partially corrugated in a direction transverse to a direction of travel at the suction cups;

wherein the suction cups comprise first and second sets of suction cups, the first set of suction cups being rotatable independently from the second set of suction cups.

19. (Canceled)

20. (Canceled)

21. (Canceled)

REMARKS

This Reply is in response to the Final Office Action mailed on June 27, 2007 in which claims 10 and 18 were allowed and in which claims 1, 2, 4-6, 12-16 and 19-21 were rejected. With this response, Applicant requests entry of amendments canceling claims 5 and 19-21 and amending claim 1. Upon entry of such amendments, claims 1, 2, 44, 6, 10, 12-16 and 18 are presented for reconsideration and allowance.

I. Objection to the Specification/Title

Page 2 of the Office Action objected to the title asserting that the title is not descriptive. The Office Action suggested the title "Media Handling Device Utilizing Independent Offset Cups On A Support".

Applicant respectfully notes that the suggested title is also not descriptive as it contains limitations not present in all of the claims. Not all the claims recite cups, nor do all of the claims recite a support or that the cups are independent. Nevertheless, in an attempt to further prosecution, the title is amended to recite "MEDIA HANDLING USING OFFSET CUPS OR SUCTION MEMBERS". Accordingly, Applicant requests that the objection to the specification/title be withdrawn.

II. Rejection of Claim 19 under 35 USC 102(b) Based upon a Wirz

Page 2 of the Office Action rejected claim 19 under 35 USC 102(b) as being anticipated by Wirz US Patent 4,378,734. Claim 19 is canceled, rendering the rejection moot.

III. Rejection of Claims 20-21 under 35 USC 102(b) Based upon a Becker

Page 3 of the Office Action rejected claims 20-21 under 35 USC 102(b) as being anticipated by Becker US Patent 4,024,814. Claims 20-21 are canceled, rendering the rejection moot.

IV. Rejection of Claims 1-2, 4-5, 13-14 and 16-17 under 35 USC 103(a) Based upon Krueger and Hudson

Page 3 of the Office Action rejected claims 1-2, 4-5, 13-14 and 16-17 under 35 USC 103(a) as being unpatentable over Krueger US Patent 2,231,339 in view of Hudson et al. US Patent Publication 2004/0113349. Applicant notes that claim 17 was previously canceled. Claim 5 is canceled with its limitations incorporated into base claim 1. Claims 1-2, 4, 13-14 and 16, as amended, overcome the rejection.

A. Claim 1

Claim 1 is amended to incorporate the limitations of former claim 5. Claim 1, as amended, recites a conveyor for transferring print media from cups plea print engine. Claim 1 further recites a drum for advancing the print media from the print engine to the cups.

Neither Krueger nor Hudson, alone or in combination, disclose a drum for advancing print media from the print engine to cups. In contrast, Krueger merely discloses the use of suckers to pick an individual sheet of metal from a stack of such sheets. Nowhere does Krueger ever mention that these suckers are used to pick a sheet from a drum. In fact, since the whole objective of Krueger is to avoid one sheet of a stack from sticking to another sheet of a stack, Krueger is not even related to the same issues.

Hudson fails to satisfy these noted deficiencies of Krueger with respect to claim 1. Nowhere does Hudson even mention the possible use of cups or a drum for advancing print media to cups. Since claim 1 merely incorporates the limitations of former claim 5, no new issues are raised. Accordingly, claim 1, as amended, overcomes the rejection and is presented for consideration and allowance. Claims 2, and 4-5 depend from claim 1 and overcome the rejection for the same reasons.

B. Claim 13

Claim 13 recites an imaging device which includes suction members configured to adhere to a medium AFTER a print engine has formed an image onto the medium.

Neither Krueger nor Hudson, alone or in combination, discloses suction members configured to adhere to a medium after a print engine has formed an image on the medium. In contrast, Krueger merely discloses the use of suckers to pick an individual sheet of metal from a stack of such sheets. Nowhere does Krueger ever mention that these suckers are used to pick a sheet AFTER a print engine has formed an image onto the medium. As previously noted, Krueger does not even disclose a print engine as it relates to picking sheets of the sheet metal.

Hudson fails to satisfy these noted deficiencies of Krueger with respect to claim 13. Although Hudson describes a liquid electrophotography print engine and a drum 22, nowhere does Hudson even mention the possible use of suction members configured to adhere to a medium after the liquid electrophotography print engine has formed an image on the medium.

Moreover, it would not be obvious to modify Krueger based upon Hudson as they are not analogous fields. One of ordinary skill in the art of handling a sheet metal would not look to liquid electrophotography print engine technology.

Furthermore, even assuming, arguendo, that it would be obvious to combine Krueger and Hudson, the resulting hypothetical combination would still fail to disclose suction members configured to adhere to a medium AFTER a print engine has formed an image on the medium. Rather, at most, the resulting hypothetical combination would use the suckers of Krueger to pick a topmost sheet of media from a stack of media and to transfer the picked sheet TO drum 22 of Hudson PRIOR to the print engine forming an image onto the medium. Accordingly, the rejection of claim 13 should be withdrawn. The rejection of claim 16, which depends from claim 13, should be withdrawn for the same reasons.

V. Rejection of Claims 6 and 15 under 35 USC 103(a) Based upon Krueger, Hudson and Tajima

Page 4 of the Office Action rejected claims 6 and 15 under 35 USC 103(a) as being unpatentable over Krueger US Patent 2,231,339 in view of Hudson et al. US Patent Publication 2004/0113349 and further in view of Tajima Japanes 62-215441. Claim 6 is amended to depend from claim 1. Claim 15 depends from claim 13 claims 6 and 15 and overcomes the rejection for the same reasons discussed above with respect to the rejection of claims 1 and 13 based upon Krueger and Hudson. Tajima fails to satisfy the deficiencies of Krueger and Hudson. Like Krueger, Hudson merely discloses suckers for lifting a topmost sheet from a stack of sheets.

VI. Rejection of Claim 12 under 35 USC 103(a) Based upon Krueger and Wirz

Page 4 of the Office Action rejected claim 12 under 35 USC 103(a) as being unpatentable over Wirz US Patent 4,378,734. For the reasons which follow, the rejection of claim 12 should be withdrawn.

Claim 12 recites an assembly for handling the sheet material which includes a drum positioned adjacent to cups for delivering sheet material to the cups.

Neither Krueger nor Wirz, alone or in combination, discloses a drum adjacent to cups. Neither Krueger nor Wirz discloses such a drum that advances print media from the print engine to the cups. In contrast, Krueger merely discloses the use of suckers to pick an individual sheet of metal from a stack of such sheets. Nowhere does Krueger ever mention that these suckers are used to pick a sheet from a drum. In fact, since the whole objective of Krueger is to avoid one sheet of a stack from sticking to another sheet of a stack, Krueger is not even related to the same issues.

Wirz fails to satisfy these noted deficiencies of Krueger with respect to claim 12. Nowhere does Wirz even mention the possible use of cups or a drum for advancing print media to cups. Accordingly, the rejection of claim 12 should be withdrawn.

VII. Conclusion

After amending the claims as set forth above, claims 1, 2, 44, 6, 10, 12-16 and 18 are now pending in this application.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 08-2025. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 08-2025. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 08-2025.

Respectfully submitted,

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